

#2 1/2

BATCH

RAW SEQUENCE LISTING

DATE: 02/06/2001

PATENT APPLICATION: US/09/706,968

TIME: 14:31:54

Input Set : A:\706968.txt

Output Set: N:\CRF3\02062001\I706968.raw

ENTERED

```

4 <110> APPLICANT: Gao, Zeren
5   Hart, Charles E.
6   Piddington, Christopher S.
7   Sheppard, Paul O.
8   Shoemaker, Kimberly E.
9   Gilbertson, Debra G.
10  West, James W.
12 <120> TITLE OF INVENTION: GROWTH FACTOR HOMOLOG ZVEGF3
14 <130> FILE REFERENCE: 98-60C1
16 <140> CURRENT APPLICATION NUMBER: US/09/706,968
17 <141> CURRENT FILING DATE: 2000-11-06
19 <150> PRIOR APPLICATION NUMBER: US/09/541,752
20 <151> PRIOR FILING DATE: 2000-03-31
22 <160> NUMBER OF SEQ ID NOS: 50
24 <170> SOFTWARE: FastSEQ for Windows Version 3.0
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27 <211> LENGTH: 1760
28 <212> TYPE: DNA
29 <213> ORGANISM: Homo sapiens
31 <220> FEATURE:
32 <221> NAME/KEY: CDS
33 <222> LOCATION: (154)...(1191)
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36 attatgtgga aactaccctg cgattctctg ctgccagagc aggctcggcg cttccacccc      60
37 agtgcagcct tccctggcg gtggtgaaag agactcggga gtcgctgctt ccaaagtgcc      120
38 cgccgtgagt gagctctcac ccagtcagc caa atg agc ctc ttc ggg ctt ctc      174
39                                     Met Ser Leu Phe Gly Leu Leu
40                                     1           5
42 ctg ctg aca tct gcc ctg gcc ggc cag aga cag ggg act cag gcg gaa      222
43 Leu Leu Thr Ser Ala Leu Ala Gly Gln Arg Gln Gly Thr Gln Ala Glu
44      10           15           20
46 tcc aac ctg agt agt aaa ttc cag ttt tcc agc aac aag gaa cag aac      270
47 Ser Asn Leu Ser Ser Lys Phe Gln Phe Ser Ser Asn Lys Glu Gln Asn
48      25           30           35
50 gga gta caa gat cct cag cat gag aga att att act gtg tct act aat      318
51 Gly Val Gln Asp Pro Gln His Glu Arg Ile Ile Thr Val Ser Thr Asn
52      40           45           50           55
54 gga agt att cac agc cca agg ttt cct cat act tat cca aga aat acg      366
55 Gly Ser Ile His Ser Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr
56      60           65           70
58 gtc ttg gta tgg aga tta gta gca gta gag gaa aat gta tgg ata caa      414
59 Val Leu Val Trp Arg Leu Val Ala Val Glu Glu Asn Val Trp Ile Gln
60      75           80           85
62 ctt acg ttt gat gaa aga ttt ggg ctt gaa gac cca gaa gat gac ata      462
63 Leu Thr Phe Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile
64      90           95           100
66 tgc aag tat gat ttt gta gaa gtt gag gaa ccc agt gat gga act ata      510

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67	Cys	Lys	Tyr	Asp	Phe	Val	Glu	Val	Glu	Glu	Pro	Ser	Asp	Gly	Thr	Ile	
68		105					110				115						
70	tta	ggg	cgc	tgg	tgt	ggt	tct	ggt	act	gta	cca	gga	aaa	cag	att	tct	558
71	Leu	Gly	Arg	Trp	Cys	Gly	Ser	Gly	Thr	Val	Pro	Gly	Lys	Gln	Ile	Ser	
72	120				125					130					135		
74	aaa	gga	aat	caa	att	agg	ata	aga	ttt	gta	tct	gat	gaa	tat	ttt	cct	606
75	Lys	Gly	Asn	Gln	Ile	Arg	Ile	Arg	Phe	Val	Ser	Asp	Glu	Tyr	Phe	Pro	
76				140					145					150			
78	tct	gaa	cca	ggg	ttc	tgc	atc	cac	tac	aac	att	gtc	atg	cca	caa	ttc	654
79	Ser	Glu	Pro	Gly	Phe	Cys	Ile	His	Tyr	Asn	Ile	Val	Met	Pro	Gln	Phe	
80			155					160				165					
82	aca	gaa	gct	gtg	agt	cct	tca	gtg	cta	ccc	cct	tca	gct	ttg	cca	ctg	702
83	Thr	Glu	Ala	Val	Ser	Pro	Ser	Val	Leu	Pro	Pro	Ser	Ala	Leu	Pro	Leu	
84			170				175					180					
86	gac	ctg	ctt	aat	aat	gct	ata	act	gcc	ttt	agt	acc	ttg	gaa	gac	ctt	750
87	Asp	Leu	Leu	Asn	Asn	Ala	Ile	Thr	Ala	Phe	Ser	Thr	Leu	Glu	Asp	Leu	
88		185				190				195							
91	att	cga	tat	ctt	gaa	cca	gag	aga	tgg	cag	ttg	gac	tta	gaa	gat	cta	798
92	Ile	Arg	Tyr	Leu	Glu	Pro	Glu	Arg	Trp	Gln	Leu	Asp	Leu	Glu	Asp	Leu	
93	200				205				210			215					
95	tat	agg	cca	act	tgg	caa	ctt	ctt	ggc	aag	gct	ttt	gtt	ttt	gga	aga	846
96	Tyr	Arg	Pro	Thr	Trp	Gln	Leu	Leu	Gly	Lys	Ala	Phe	Val	Phe	Gly	Arg	
97			220					225				230					
99	aaa	tcc	aga	gtg	gtg	gat	ctg	aac	ctt	cta	aca	gag	gag	gta	aga	tta	894
100	Lys	Ser	Arg	Val	Val	Asp	Leu	Asn	Leu	Leu	Thr	Glu	Glu	Val	Arg	Leu	
101			235					240				245					
103	tac	agc	tgc	aca	cct	cgt	aac	ttc	tca	gtg	tcc	ata	agg	gaa	gaa	cta	942
104	Tyr	Ser	Cys	Thr	Pro	Arg	Asn	Phe	Ser	Val	Ser	Ile	Arg	Glu	Glu	Leu	
105			250				255					260					
107	aag	aga	acc	gat	acc	att	ttc	tgg	cca	ggt	tgt	ctc	ctg	gtt	aaa	cgc	990
108	Lys	Arg	Thr	Asp	Thr	Ile	Phe	Trp	Pro	Gly	Cys	Leu	Leu	Val	Lys	Arg	
109		265				270				275							
111	tgt	ggt	ggg	aac	tgt	gcc	tgt	tgt	ctc	cac	aat	tgc	aat	gaa	tgt	caa	1038
112	Cys	Gly	Gly	Asn	Cys	Ala	Cys	Cys	Leu	His	Asn	Cys	Asn	Glu	Cys	Gln	
113	280				285				290			295					
115	tgt	gtc	cca	agc	aaa	gtt	act	aaa	aaa	tac	cac	gag	gtc	ctt	cag	ttg	1086
116	Cys	Val	Pro	Ser	Lys	Val	Thr	Lys	Lys	Tyr	His	Glu	Val	Leu	Gln	Leu	
117			300					305				310					
119	aga	cca	aag	acc	ggt	gtc	agg	gga	ttg	cac	aaa	tca	ctc	acc	gac	gtg	1134
120	Arg	Pro	Lys	Thr	Gly	Val	Arg	Gly	Leu	His	Lys	Ser	Leu	Thr	Asp	Val	
121			315					320				325					
123	gcc	ctg	gag	cac	cat	gag	gag	tgt	gac	tgt	gtg	tgc	aga	ggg	agc	aca	1182
124	Ala	Leu	Glu	His	His	Glu	Glu	Cys	Asp	Cys	Val	Cys	Arg	Gly	Ser	Thr	
125		330				335				340							
127	gga	gga	tag	ccgcatcacc	accagcagct	cttgcccaga	gctgtgcagt										1231
128	Gly	Gly															
129		345															
131	gcagtggtg	ctg	attctattag	agaacgtatg	cgttatctcc	atccttaatc	tcagttgttt										1291
132	gcttcaagga	cctttcatct	tcaggattta	cagtgcattc	tgaaagagga	gacatcaaac											1351

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133 agaattagga gttgtgcaac agctcttttg agaggaggcc taaaggacag gagaaaaggt 1411
134 cttcaatcgt ggaagaaaaa ttaaattgtg tattaatatag atcaccagct agtttcagag 1471
135 ttaccatgta cgtattccac tagctgggtt ctgtatttca gttctttcga tacggcttag 1531
136 ggtaattgtca gtacaggaaa aaaactgtgc aagttagcac ctgattccgt tgccttgctt 1591
137 aactctaaag ctccatgtcc tgggcctaaa atcgtataaa atctggattt tttttttttt 1651
138 tttttgctca tattcacata tgtaaaccag aacattctat gtactacaaa cctggttttt 1711
139 aaaaaggaac tatgttgcta tgaattaaac ttgtgtcgtg ctgatagga 1760
141 <210> SEQ ID NO: 2
142 <211> LENGTH: 345
143 <212> TYPE: PRT
144 <213> ORGANISM: Homo sapiens
146 <400> SEQUENCE: 2
147 Met Ser Leu Phe Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
148 1 5 10 15
149 Arg Gln Gly Thr Gln Ala Glu Ser Asn Leu Ser Ser Lys Phe Gln Phe
150 20 25 30
151 Ser Ser Asn Lys Glu Gln Asn Gly Val Gln Asp Pro Gln His Glu Arg
152 35 40 45
153 Ile Ile Thr Val Ser Thr Asn Gly Ser Ile His Ser Pro Arg Phe Pro
154 50 55 60
155 His Thr Tyr Pro Arg Asn Thr Val Leu Val Trp Arg Leu Val Ala Val
156 65 70 75 80
157 Glu Glu Asn Val Trp Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
158 85 90 95
159 Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
160 100 105 110
161 Glu Pro Ser Asp Gly Thr Ile Leu Gly Arg Trp Cys Gly Ser Gly Thr
162 115 120 125
163 Val Pro Gly Lys Gln Ile Ser Lys Gly Asn Gln Ile Arg Ile Arg Phe
164 130 135 140
165 Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr
166 145 150 155 160
167 Asn Ile Val Met Pro Gln Phe Thr Glu Ala Val Ser Pro Ser Val Leu
168 165 170 175
169 Pro Pro Ser Ala Leu Pro Leu Asp Leu Leu Asn Asn Ala Ile Thr Ala
170 180 185 190
171 Phe Ser Thr Leu Glu Asp Leu Ile Arg Tyr Leu Glu Pro Glu Arg Trp
172 195 200 205
173 Gln Leu Asp Leu Glu Asp Leu Tyr Arg Pro Thr Trp Gln Leu Leu Gly
174 210 215 220
175 Lys Ala Phe Val Phe Gly Arg Lys Ser Arg Val Val Asp Leu Asn Leu
176 225 230 235 240
177 Leu Thr Glu Glu Val Arg Leu Tyr Ser Cys Thr Pro Arg Asn Phe Ser
178 245 250 255
179 Val Ser Ile Arg Glu Glu Leu Lys Arg Thr Asp Thr Ile Phe Trp Pro
180 260 265 270
181 Gly Cys Leu Val Lys Arg Cys Gly Gly Asn Cys Ala Cys Cys Leu
182 275 280 285
183 His Asn Cys Asn Glu Cys Gln Cys Val Pro Ser Lys Val Thr Lys Lys

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 PATENT APPLICATION: US/09/706,968 TIME: 14:31:54

Input Set : A:\706968.txt
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```

184      290      295      300
185 Tyr His Glu Val Leu Gln Leu Arg Pro Lys Thr Gly Val Arg Gly Leu
186 305      310      315      320
187 His Lys Ser Leu Thr Asp Val Ala Leu Glu His His Glu Glu Cys Asp
188      325      330      335
189 Cys Val Cys Arg Gly Ser Thr Gly Gly
190      340      345

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192 <210> SEQ ID NO: 3
193 <211> LENGTH: 116
194 <212> TYPE: PRT
195 <213> ORGANISM: Artificial Sequence
197 <220> FEATURE:
198 <223> OTHER INFORMATION: peptide motif
200 <221> NAME/KEY: VARIANT
201 <222> LOCATION: (2)...(19)
202 <223> OTHER INFORMATION: Xaa is any amino acid
204 <221> NAME/KEY: VARIANT
205 <222> LOCATION: (20)...(34)
206 <223> OTHER INFORMATION: Xaa is any amino acid or not present
208 <221> NAME/KEY: VARIANT
209 <222> LOCATION: (36)...(36)
210 <223> OTHER INFORMATION: Xaa is any amino acid
212 <221> NAME/KEY: VARIANT
213 <222> LOCATION: (38)...(38)
214 <223> OTHER INFORMATION: Xaa is any amino acid
216 <221> NAME/KEY: VARIANT
217 <222> LOCATION: (40)...(45)
218 <223> OTHER INFORMATION: Xaa is any amino acid
220 <221> NAME/KEY: VARIANT
221 <222> LOCATION: (46)...(72)
222 <223> OTHER INFORMATION: Xaa is any amino acid or not present
224 <221> NAME/KEY: VARIANT
225 <222> LOCATION: (74)...(93)
226 <223> OTHER INFORMATION: Xaa is any amino acid
228 <221> NAME/KEY: VARIANT
229 <222> LOCATION: (94)...(113)
230 <223> OTHER INFORMATION: Xaa is any amino acid not present
232 <221> NAME/KEY: VARIANT
233 <222> LOCATION: (115)...(115)
234 <223> OTHER INFORMATION: Xaa is any amino acid
236 <400> SEQUENCE: 3

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W--> 237 Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
238      1      5      10      15
W--> 239 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
240      20      25      30
W--> 241 Xaa Xaa Cys Xaa Gly Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
242      35      40      45
W--> 243 Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
244      50      55      60

```

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Input Set : A:\706968.txt
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```

W--> 245  Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa
      246  65              70              75              80
W--> 247  Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
      248              85              90              95
W--> 249  Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
      250              100              105              110
W--> 251  Xaa Cys Xaa Cys
      252              115
      254 <210> SEQ ID NO: 4
      255 <211> LENGTH: 24
      256 <212> TYPE: PRT
      257 <213> ORGANISM: Artificial Sequence
      259 <220> FEATURE:
      260 <223> OTHER INFORMATION: peptide motif
      262 <221> NAME/KEY: VARIANT
      263 <222> LOCATION: (2)...(2)
      264 <223> OTHER INFORMATION: Xaa is Lys or Arg
      266 <221> NAME/KEY: VARIANT
      267 <222> LOCATION: (4)...(4)
      268 <223> OTHER INFORMATION: Xaa is Asp, Asn or Glu
      270 <221> NAME/KEY: VARIANT
      271 <222> LOCATION: (5)...(5)
      272 <223> OTHER INFORMATION: Xaa is Trp, Tyr or Phe
      274 <221> NAME/KEY: VARIANT
      275 <222> LOCATION: (6)...(16)
      276 <223> OTHER INFORMATION: Xaa is any amino acid
      278 <221> NAME/KEY: VARIANT
      279 <222> LOCATION: (17)...(20)
      280 <223> OTHER INFORMATION: Xaa is any amino acid or not present
      282 <221> NAME/KEY: VARIANT
      283 <222> LOCATION: (22)...(22)
      284 <223> OTHER INFORMATION: Xaa is Lys or Arg
      286 <221> NAME/KEY: VARIANT
      287 <222> LOCATION: (23)...(23)
      288 <223> OTHER INFORMATION: Xaa is Trp, Tyr or Phe
      290 <400> SEQUENCE: 4
W--> 291  Cys Xaa Tyr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
      292  1              5              10              15
W--> 293  Xaa Xaa Xaa Xaa Gly Xaa Xaa Cys
      294              20
      296 <210> SEQ ID NO: 5
      297 <211> LENGTH: 6
      298 <212> TYPE: PRT
      299 <213> ORGANISM: Artificial Sequence
      301 <220> FEATURE:
      302 <223> OTHER INFORMATION: peptide tag
      304 <400> SEQUENCE: 5
      305  Glu Tyr Met Pro Met Glu
      306  1              5

```

VERIFICATION SUMMARY
PATENT APPLICATION: US/09/706,968

DATE: 02/06/2001
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Input Set : A:\706968.txt
Output Set: N:\CRF3\02062001\I706968.raw

L:237 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:239 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:241 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:243 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:245 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:247 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:249 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:251 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3
L:291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4
L:322 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:323 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:324 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:325 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:326 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:327 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:328 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:329 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:330 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:331 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:332 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:333 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:334 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
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L:336 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:337 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:338 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:339 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:354 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:369 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:384 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:399 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:414 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:429 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:455 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:14
L:470 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15
L:485 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:16
L:500 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:17
L:515 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18
L:552 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21
L:567 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22
L:582 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23
L:597 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:24